

Appl. No. 10/604,441  
Amdt. dated May 22, 2005  
Reply to Office action of February 22, 2005

**Amendments to the Specification:**

**Please replace Paragraph [0005] with the following amended paragraph:**

Computer chassis is often provided with extra circuit card slots to allow for easy expansion of the computer system through the addition of circuit cards. Briefly speaking,  
5 all kinds of peripheral equipments can be connected to the computer system by connecting circuit cards to the main board. Generally speaking, those circuit cards, such as FAX enabling demodulation cards, have to be connected to computer system through extra circuit card slots, namely expansion slots, which is mostly installed on the backplane of the computer housing. Therefore, the circuit cards can be inserted into the  
10 expansion slots with printed circuit board (PCB) brackets being covered on the expansion slots to communicate with ~~the computer~~ the computer system.

**Please replace Paragraph [0007] with the following amended paragraph:**

Generally, the empty expansion slots should be covered by brackets. However, nowadays, along with the higher complexity of the electric ~~circuits~~inside circuits inside the computer,  
15 the amount of electromagnetic radiation is greatly increasing so that lots of queries are raised toward the shielding function of the brackets. Those queries are mainly aimed at the slight gap between the bracket and the computer housing that may cause a leakage of electromagnetic radiation and make the shielding performance of the bracket deteriorated by external forces.

20 **Please replace Paragraph [0008] with the following amended paragraph:**

Please refer to Fig.1, which is a schematic diagram of a computer housing 10 in the prior art. The computer housing 10 comprises a plurality of expansion slots 12 that permit peripherals to connect to a computer system. The computer housing 10 further comprises a plurality of ribs 18 used to separate adjacent expansion slots 12. Typically, the  
25 expansion slots 12 of the computer housing 10 should be covered by a plurality of

Appl. No. 10/604,441  
Amdt. dated May 22, 2005  
Reply to Office action of February 22, 2005

~~brackets 14~~ brackets 14 or PCB ~~brackets 15~~ brackets 15 as shown in Fig.1. For the sake of clarity, the PCB bracket 15 shown in Fig. 1 does not include a printed circuit board attached thereto, and only a plurality of support arms 32 of the printed circuit board are shown. The embodiment in the prior art as shown in Fig.1 discloses two ways to fix the

5 ~~brackets 14~~ brackets 14 and the PCB ~~brackets 15~~ brackets 15 onto the expansion slots 12 of the computer housing 10. First, the rib 18 may include a supporting hook 16 at one end to hold a bracket 14 to the expansion slot 12, and typically a plurality of screws (not shown) are used to hold the bracket 14 to the other ~~end of~~ end of the rib 18. The other method to fix the ~~bracket 14~~ bracket 14 and the PCB ~~bracket 15~~ bracket 15 onto the computer housing

10 10 is to install a plurality of openings 20 at one end of ~~the expansion~~ the expansion slot 12, and provide the corresponding end of the brackets 14 with a bending tip 22 that can be inserted into the opening 20 for holding the brackets 14. The design of the openings 20 and the bending tip 22 can improve the fixity of the brackets 14. In addition, the above-mentioned two methods can be combined so that the user can easily and quickly

15 fix the brackets 14 between the adjacent ribs 18 of the computer housing 10 and cover the corresponding expansion slot 12. Although the manner of shielding the expansion slots 12 with brackets 14 and/or PCB brackets 15 by the supporting hook 16, the opening 20, and/or bending tip 22 has been proven to be sufficient to block dust and other debris from entering the computer system, such configuration is still inadequate to sufficiently block

20 EM and RF wave emissions.

**Please replace Paragraph [0009] with the following amended paragraph:**

The prior art as shown in Fig.1 cannot significantly reduce the slight gap between the bracket 14 and the computer housing 10 that may cause a leakage of electromagnetic radiation. Especially when an external force is

25 applied so as to cause the deformation of the rib 18 or the brackets 14, the gap between the bracket 14 and the computer housing 10 may be deformed by the external ~~force~~ in force. ~~In order to provide~~ provide a tighter contact between the computer housing 10 and the brackets 14 as shown in Fig.1 for

Appl. No. 10/604,441  
Amdt. dated May 22, 2005  
Reply to Office action of February 22, 2005

sufficiently reducing the existed gap, the industrial circles adopt the following technique as shown in Fig.2.

**Please replace Paragraph [0010] with the following amended paragraph:**

Please refer to Fig. 2, which is a schematic diagram of the computer housing 10 shown in Fig.1 with a plurality of metallic shielding panels 24 attached thereto. The installation of the plurality of metallic shielding panels 24 on the ribs 18 can reduce ~~the gap~~ the gap between the brackets 14 and the ribs 18. The metallic shielding panels 24 can be replaced by ~~plastic gaskets~~ plastic gaskets. These metallic shielding ~~panels~~ panels or gaskets ~~24 can~~ 24 can definitely reduce the gap between the rib 18 and the brackets 14 to provide a sounder shielding function. However, those externally added matters cause some problems. First, the installation of the metallic shielding panels or gaskets 24 will consume additional labor and cost. Moreover, the metallic shielding panel (gasket) 24 may conflict with the bending tip 22 of the brackets 14 during the assembling and disassembling processes, resulting in an inconvenience. In particular, due to the increasing quantities of the expansion slots 12 that lead to narrower and thinner ribs 18 and brackets 14, the ribs 18 and brackets 14 are more easily deformed by inadequate external force. If the rib 18 and the bracket 14 are bent toward the same direction, the gap is still within tolerance. If the rib 18 and the bracket 14 are bent toward different directions, the gap will be aggravated beyond tolerance, and thus the metallic shielding panels (gasket) 24 will no longer be clamped between the brackets 14 and the ribs 18. Therefore, the prior art can not really provide a solution for the leakage of electromagnetic radiation.

**Please replace Paragraph [0012] with the following amended paragraph:**

In summary, the above-mentioned prior arts have a characteristic in common, that is, they ~~ignoree~~ ignore the real cause of the deformation by external forces. That is, the gap between the brackets and the ribs will be aggravated by external forces when the rib and the bracket are bent or twisted toward different directions. Besides, all the prior arts need

Appl. No. 10/604,441  
 Amdt. dated May 22, 2005  
 Reply to Office action of February 22, 2005

to install extra components, as metallic shielding panel, gasket, or supporting hook, for fixing the bracket or for reducing the gap, and all these additional components will bring some bad effects such as increasing cost or inconvenient installation.

**Please replace Paragraph [0018] with the following amended paragraph:**

- 5 Fig.1 is a schematic diagram of an embodiment of a ~~prior computer~~ prior computer housing.

**Please replace Paragraph [0022] with the following amended paragraph:**

- Please refer to Fig. 3, which is a schematic diagram of a computer housing 10 according to the present invention. The computer housing 10 ~~comprises~~ comprises a frame 25 and  
 10 a plurality of ribs 28 installed on the frame 25 wherein two of the adjacent ribs 28 form an expansion slot 26. The plurality of expansion ~~slots~~ slots 26 can be used to connect peripherals to the computer system. Typically, the expansion ~~slots~~ slots 26 should be covered with a plurality of brackets 34 or PCB brackets ~~35~~ 35. In the embodiment as shown in Fig.3, each rib 28 ~~comprises two~~ comprises two front supporting  
 15 ~~pieces~~ pieces 31 and a rear supporting piece 30. The rear supporting piece 30 is connected between the two front supporting ~~pieces~~ pieces 31. The two front supporting ~~pieces~~ pieces 31 of the rib 28 stand coplanar, and the rear supporting piece 30 stands on a different plane with the front supporting pieces 31. There exists a height difference d between the front supporting  
 20 pieces 31 and the rear supporting piece 30 of each rib ~~28~~ as 28 as shown in Fig.3, and a thickness of each bracket 34 is almost equivalent to but slightly less than the height difference d so that the bracket 34 can be ~~detachably installed~~ detachably installed between the front supporting pieces 31 and the rear supporting pieces 30 of adjacent ribs 28. In other words, when the user wants to install the bracket 34  
 25 or the PCB bracket 35 between two adjacent ~~ribs~~ ribs 28, the user only needs to superimpose the bracket 34 or the PCB bracket 35 on the front

Appl. No. 10/604,441  
Amdt. dated May 22, 2005  
Reply to Office action of February 22, 2005

supporting pieces 31 of adjacent ribs 28, and push the bracket 34 or the PCB  
bracket 35 inwards to fit the height difference  $d$  so that the bracket 34 is  
superimposed on the front supporting pieces 31 of the adjacent ribs 28, and squeeze the  
rear supporting pieces 30 of the adjacent ribs 28. The user can also remove the bracket 34  
5 from the adjacent ribs 28 by following a ~~procedurereverse~~ reverse procedure to how the  
bracket 34 is installed onto the computer housing 10.

**Please replace Paragraph [0023] with the following amended paragraph:**

In the embodiment of the computer housing 10, the frame 25 and the  
plurality of ribs 28 that include the front supporting pieces 31 and the rear  
10 supporting pieces 30 are formed in one piece. The embodiment of the computer  
housing 10 requires no metallic shielding panel. In addition, because the  
thickness of each bracket 34 is almost equivalent to the height difference  $d$ ,  
each bracket 34 can be tightly clamped between the adjacent ribs 28 so that ribs  
28 and the brackets 34 will be bent or twisted toward the same direction under an intense  
15 external force. Therefore, the slight gap between the brackets 34 and the ~~ribs28~~ ribs 28  
will not be increased. Please refer to Fig. 4, which is a schematic diagram showing the  
computer housing 10 with the PCB brackets 35 being installed thereon. For the sake of  
clarity, the PCB bracket 35 does not include a printed circuit board attached thereto, and  
only a plurality of support arms 36 of the printed circuit board are shown.

20 **Please replace Paragraph [0024] with the following amended paragraph:**

The embodiments as shown in Fig.3 and Fig.4 are preferred embodiments in the present  
invention. During the manufacturing process, each rib 28 only needs to include at least a  
front supporting piece 31 and a rear supporting piece 30. That is, the quantities of the  
front supporting pieces 31 and the rear supporting pieces ~~30 of 30~~ of 30 of each rib 28 will not  
25 be limited as long as the ~~brackets34~~ brackets 34 can be tightly clamped between the  
adjacent ribs 28 and the height difference is adequate for accommodating the brackets.

Appl. No. 10/604,441  
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**Please replace Paragraph [0025] with the following amended paragraph:**

Compared with the prior art, the present invention makes use of a height difference between the front supporting piece and the rear supporting piece of each rib so ~~that~~ that a bracket can be ~~detachably clamped~~ detachably clamped between the front supporting  
5 pieces and the rear supporting pieces of adjacent ribs. Therefore, the deformation of the gap between the ribs will not be ~~aggravated by~~ aggravated by external forces and the bracket can perfectly prevent a leakage of electromagnetic radiation. Moreover, the present invention requires no additional shielding or fixing components such ~~as the~~ as the metallic shielding panel.

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